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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,499	07/14/2004	Stephen Norman Batchelor	C4195(C)	2529

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EXAMINER
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KHAN, AMINA S

ART UNIT	PAPER NUMBER
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1751

MAIL DATE	DELIVERY MODE
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06/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/501,499

Applicant(s)

BATCHELOR ET AL.

Examiner

Amina Khan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to applicant's amendments filed on March 27, 2007.

2. Claims 1 and 4-11 are pending. Claims 2 and 3 have been cancelled. Claims 1 and 3-7 have been amended.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (US 5,510,004).

Allen teaches paper containing azetidinium halide polymers comprising monomers such as dimethylaminoethylmethacrylate, diallylamine and hydroxyethyl methacrylate (column 4, lines 35-45). Allen further teaches that the polymers are applied to paper after sheet formation from 0.1-5wt percent based on the dry weight of the paper pulp (column 5, lines 19-30). Allen further teaches the textile compatible carrier of water because the polymers are provided onto paper in the form of an aqueous solution (column 5, lines 1-15). Allen further teaches textile conditioning and

softening agents of polyamines, such as polyethyleneimine or polyvinylamine, which are mixed with the polymers to enhance the action of the wet strength agents on paper(column 5, lines 29-35; column 11 and 12, Table 3, lines 72-79) .

Allen does not teach all the instantly claimed embodiments in a single example.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results, which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

It would have nonetheless been obvious to the skilled artisan to produce the claimed composition, as the reference teaches each of the claimed ingredients within the claimed proportions for the same utility.

5. Claims 1 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasuna et al. (US 6,297,319).

Nagasuna et al. teach water absorbing polymer comprising polyethylene glycol mono(meth)acrylate (column 5, lines 35-40), 2-aminomethacrylate (column 9, lines 40-45; column 11, lines 9-12), polyethyleneimine azetidinium salt (column 13, lines 40-45), polyethylene glycol diglycidyl ether (column 7, lines 24-25), surfactants (column 12, lines 59-65), deodorants, disinfectants, antimicrobial agents (column 15, lines 40-50) and water (column 12, lines 20-30). The composition is coated on diapers for the benefit of water absorbency.

Nagasuna et al. do not teach all the instantly claimed embodiments in a single example.

It would have been obvious to the skilled artisan to produce the claimed composition, as Nagasuna et al. teach the absorbency benefits provided by each of the claimed ingredients for the production of a water absorbent textile. One of ordinary skill in the art would have been motivated to select these components for optimization of absorbency benefits absent unexpected results.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasuna et al. (US 6,297,319) as applied to the claims above and further in view of Evans (US 5,534,038).

Nagasuna et al. are relied upon as set forth above.

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Nagasuna et al. do not teach polymers comprising 1,1,3,3,5,5-hexafluoroisopropyl methacrylate.

Evans teaches adding 1,1,1,3,3,3- hexafluoroisopropyl methacrylate monomers (column 6, lines 35-36) to polymers for the benefit of producing added absorption of water in such products as disposable diapers (column 11, lines 20-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the polymers of Nagasuna et al. by incorporating the hexafluoroisopropyl methacrylate monomers as taught by Evans because Evans teaches the added water absorbency imparted to disposable diapers when these monomers are included in the polymer. It is prima facie obvious to combine the two references, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the absorbent article art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

### ***Response to Arguments***

7. Applicant's arguments filed regarding Allen et al., Nagasuna et al. and Evans have been fully considered but they are not persuasive.

8. The applicant argues:

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"None of the art cited by the examiner are concerned with the technical field of textile treatment, nor with the problems specified in the current application (see pg. 3, line 7 - page 4) and are therefore nonanalogous art. Allen is concerned with increasing wet paper strength, Nagasuna, et al., is concerned with water absorbent resins (for diapers as an example), while Evans is directed to a process for contact lens tinting. The skilled person would not consider such documents as relevant starting points as nowhere in any cited document is there a teaching for textile treatment. Even if the skilled person did look at these documents, they would not find any suggestion or motivation for modifying the prior art to arrive at the invention as currently claimed."

The examiner respectfully disagrees. Allen clearly teaches treating paper products that are classified as textiles. Nagasuna et al. are directed towards applying wet strength agents to textiles such as disposable diapers composed of cotton, wool rayon, cellulose (column 15, lines 15-55). Evans is also directed towards applying the hydrophilic polymers to disposable diapers (column 11, lines 20-25). Therefore all the references are directed towards textile treatments.

Even though the references does not explicitly state "textiles", the two different intended uses are not distinguishable in terms of the composition, see *In re Thuau*, 57 USPQ 324; *Ex parte Douros*, 163 USPQ 667; and *In re Craige*, 89 USPQ 393.

9. The applicant argues:

"While Allen discloses that a copolymer may be used and may contain monomers (such as diallylamine) which have secondary groups; including possible co-monomers for the polymer (col. 4, line 15 onwards); there is no suggestion to specifically pick those which have secondary groups, nor that such polymers would be useful in the textile treatment composition as currently claimed absent impermissible hindsight."

The examiner respectfully disagrees. Allen clearly teaches diallylamine as a preferred comonomer for incorporation into the polymer (column 4, line 35) therefore one of ordinary skill in the art would have been motivated to select it.

10. The applicant argues:

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"With regards to the amended claim 1 (the composition claim), Allen does not teach the polymer in combination with textile compatible carriers which are specified to be either a detergent active compound or a textile softening or conditioning agent. Allen only discloses 'water' which is outside the definition of detergent active compounds given on page 12, lines 10-12. Thus Allen does not teach or suggest a textile compatible carrier as claimed, and so amended claim 1 is unobvious over Allen."

The examiner respectfully disagrees. Allen further teaches textile conditioning and softening agents of polyamines, such as polyethyleneimine or polyvinylamine, which are mixed with the polymers to enhance the action of the wet strength agents on paper (column 5, lines 29-35; column 11 and 12, Table 3, lines 72-79). The claims are not limited to the textile agents given in the applicant's specification.

11. The applicant argues:

"Nagasuna, et al., teaches a water-absorbing agent made by treating a water-absorbent resin with an oxazoline compound of specified structure. For similar reasons stated above for Allen, Nagasuna would not provide motivation to the skilled person for making the claimed polymer, as they would have to choose specific embodiments from col. 5, lines 35 and col. 13, lines 40-45 relating to the monomers and azetidinium groups respectively. There is no motivation for the skilled person combining disclosed embodiments of Nagasuna absent impermissible hindsight."

The examiner argues that all the monomers are disclosed as useful in providing textile materials such as the cellulosic and wool components of diapers with water absorbency. Nagasuna et al. clearly teach similar compounds to be combined to form similar compositions for the similar purpose of textile treatment. The azetidinium salts are part of a group of conventional surface cross-linking agents (column 13, lines 20-50). All disclosures of the prior art, including non-preferred embodiment, must be considered. See *In re Lamberti and Konort*, 192 USPQ 278 (CCPA 1967); *In re Snow* 176 USPQ 328 (CCPA 9173). Nonpreferred embodiments can be indicative of obviousness, see *Merck & Co. v. Biocraft Laboratories Inc.* 10 USPQ 2d 1843 (Fed. Cir.



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1989); *In re Lamberti*, 192 USPQ 278 (CCPA 1976); *In re Kohler*, 177 USPQ 399. A reference is not limited to the working examples, see *In re Fracalossi*, 215 USPQ 569 (CCPA 1982).

12. The applicant argues:

"Evans is concerned with the unrelated field of contact lens tinting. It does not disclose the azetidinium polymer containing secondary amine groups, or the textile compatible carrier as required by amended claim 1. Any combination of Nagasuna and Evans is therefore deficient with respect to amended claim 1 as all claim features are not recited in these references."

The examiner respectfully disagrees. Evans clearly teaches that the hydrophilic polymers are useful for the absorption of water in products such as disposable diapers (column 11, lines 22-25). Nagasuna et al. are also directed towards compounds applied to diapers to improve water absorption (column 15, lines 19-55).

It is prima facie obvious to combine the two compounds, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the diaper art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

**Conclusion**

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*AK*

AK  
June 7, 2007

*Lorna M. Douyon*  
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PRIMARY EXAMINER